

Industrial Linear Motors

Smart solutions are driven by

LinMot[®]



PRODUCT OVERVIEW

Precision and dynamics

In the products and in the everyday life of NTI AG, these values are inseparable.

NTI AG

NTI AG is a global manufacturer of high quality tubular style linear motors and linear motor systems and thus focuses on the development, production and distribution of linear direct drives for use in industrial environments.

Founded in 1993 as an independent business unit of the Sulzer Group, NTI AG has been in operation since 2000 as an independent company.

NTI AG headquarters are located in Spreitenbach, near Zurich in Switzerland. In addition to three production sites in Switzerland and Slovakia, NTI AG maintains a sales and support office LinMot® USA Inc. to cover the Americas.

The brands LinMot® for industrial linear motors and MagSpring® for magnetic springs are offered to customers worldwide. NTI AG maintains an experienced customer consultant sales and support network of over 80 locations worldwide.

For the realization of linear motion NTI AG is always a competent and reliable partner.

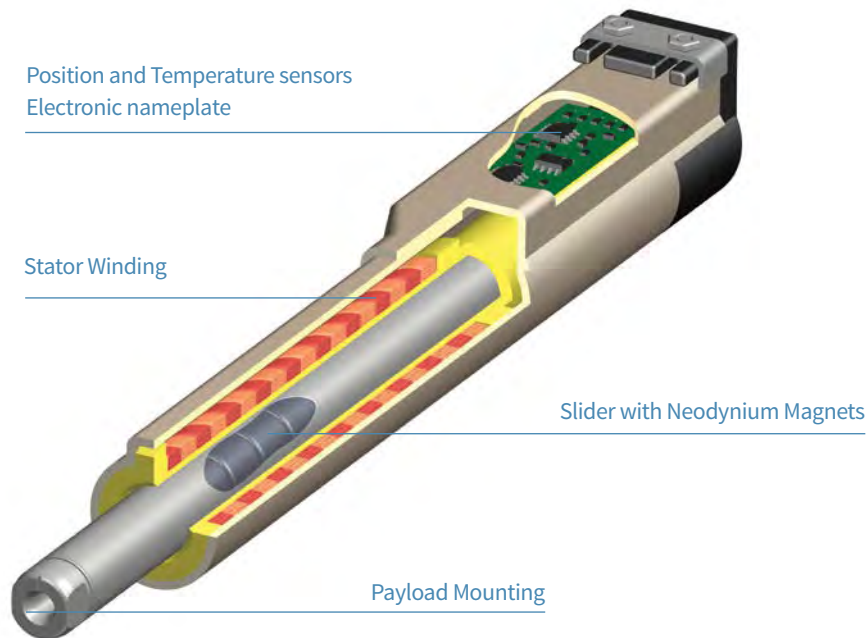


Mission

LinMot offers its customers a sophisticated and dedicated linear drive system that can be easily integrated into all leading control systems. A high degree of standardization, delivery from stock and a worldwide distribution network insure the immediate availability and excellent customer support.

Our aim is to push linear direct drive technology and make it a standard machine design element. We offer highly efficient drive solutions that make a major contribution to the overall resource conservation effort.

Linear Motors



LinMot linear motors employ a direct electromagnetic principle. Electromagnetic force provides direct linear movement without the use of cams, gears, belts, or other mechanical devices. The engine consists of only two parts: The slider and the stator. The slider is made of neodymium magnets in a high precision stainless steel tube. In the stator are the motor windings, the bearing for the slider, the position detection and temperature sensors for thermal monitoring of the motor.

Standard Motors
High-Performance Motors
Short Type Motors
Stainless Steel Motors
ATEX Motors
Special Motors

- ✓ Freely positionable
- ✓ Speed adjustable
- ✓ Acceleration adjustable
- ✓ Programmable force

- ✓ Extreme dynamics
- ✓ Monitored movements
- ✓ Soft movements
- ✓ Synchronized movements

- ✓ Long service life
- ✓ Low maintenance costs
- ✓ Hygienic
- ✓ Low energy costs

Standard Motors Universal



- » Highly dynamic drives
- » Wide stroke range
- » Available with cable outlet or with rotatable connector
- » Optional with air cooling
- » Wide range of applications in handling modules as well as in plant and machine construction

Stroke up to	mm	1830
Max. Force	N	23-1024
Nominal Force	N	9-354
Peak Velocity	m/s	6.9
Peak Acceleration	m/s ²	500
Repeatability	mm	0.05/0.01
Stator Length	mm	162-410
Slider Length	mm	130-2000

Short Type Motors Compact



HP Motors High-Performance



- » Particularly strong magnetic circuit
- » Increased duration of force and acceleration
- » Enables higher operating temperatures
- » In comparison with the standard motors, a smaller HP motor can be used with the same load.

Stroke up to	mm	1480
Max. Force	N	21-255
Nominal Force	N	15-92
Peak Velocity	m/s	7.3
Peak Acceleration	m/s ²	780
Repeatability	mm	0.05/0.01
Stator Length	mm	162-257
Slider Length	mm	170-1600

- » Short design
- » Integrated mounting flange
- » Pluggable motor cable with cover
- » Free positionable cable outlet
- » For use where space is limited and in multi-axis applications

Stroke up to	mm	1480
Max. Force	N	29-255
Nominal Force	N	8-65
Peak Velocity	m/s	7.3
Peak Acceleration	m/s ²	750
Repeatability	mm	0.05/0.01
Stator Length	mm	90/105/150
Slider Length	mm	130-1600

P10-54 Motors
Power packages

- » 230VAC and 3 x 400VAC technology
- » Peak forces up to 900 N
- » Rotating push-pull TWIN connector for power and encoder cables
- » One-piece clamping flange
- » Can also be controlled by standard third-party servo drives

Stroke up to	mm	2240
Max. Force	N	892
Nominal Force	N	255
Peak Velocity	m/s	11.1
Peak Acceleration	m/s ²	413
Repeatability	mm	0.01
Stator Length	mm	22-402
Slider Length	mm	350-2500



P10-70 Motors
High Power

- » 3 x 400VAC technology
- » Peak force up to 2700 N
- » Extremely high accelerations
- » Separate connector for sensor and power cable
- » Can be operated by standard “third party” Servo Drives

Stroke up to	mm	1770
Max. Force	N	557-2703
Nominal Force	N	65-862
Peak Velocity	m/s	7.4
Peak Acceleration	m/s ²	975
Repeatability	mm	0.05/0.01
Stator Length	mm	180-500
Slider Length	mm	290-1990



Stainless Steel Motors Hygienic

- » Stainless steel housing
EN 1.4404/ AISI 316
- » Hygienic design
- » Welded connections, no gaskets
- » Completely encapsulated (IP69K)
- » Optional integrated water cooling
- » For use in the food
or in the pharmaceutical sector

Stroke up to	mm	980
Max. Force	N	210-888
Nominal Force	N	24-360
Peak Velocity	m/s	3.4
Peak Acceleration	m/s ²	440
Repeatability	mm	0.05/0.01
Stator Length	mm	296/395/515
Slider Length	mm	395-1400



ATEX Motors Encapsulated

- » ATEX and IECEx certified
- » Welded connections
- » Completely encapsulated (IP69K)
- » Protection class IP69K
- » Optional integrated water cooling
- » For use in protection zones 1 / 2 (gas)
- » Suitable for use in protection zones
21 / 22 (dust)

Stroke up to	mm	980
Max. Force	N	210-888
Nominal Force	N	24-360
Peak Velocity	m/s	3.4
Peak Acceleration	m/s ²	440
Repeatability	mm	0.05/0.01
Stator Length	mm	296/395/515
Slider Length	mm	395-1400



P04 Motors

Pneumatic substitute

- » Peak force up to 550 N
- » Stroke up to 150 mm
- » Hardened rod capable to handle side load
- » Ø 16 mm rod with M10x1.25 thread
- » Mounting connection according to ISO pneumatic cylinder
- » Stator encapsulated (IP54)

Stroke up to	mm	150
Max. Force	N	550
Nominal Force	N	255
Peak Velocity	m/s	3.9
Peak Acceleration	m/s ²	50
Repeatability	mm	±0.05
Stator Length	mm	400-455
Slider Length	mm	429-488



PD04 Motors

Pneumatic substitute

- » Stand alone configuration of the motor
- » Setting 4 positions in real time
- » Best usability with clear display
- » Absolute sensor, no homing required
- » Motor conforms to protection class IP54
- » Integrated linear guide

Stroke up to	mm	150
Max. Force	N	550
Nominal Force	N	255
Peak Velocity	m/s	3.9
Peak Acceleration	m/s ²	50
Repeatability	mm	±0.05
Stator Length	mm	400 - 455
Slider Length	mm	429-488



P03 Motors
Integrated Drive

- » High-performance linear motor with integrated drive
- » Compact form factor
- » Highly dynamic
- » Suitable for daisy-chain linkages
- » Integrated mounting flange
- » Low cabling effort
- » Low overall costs
- » Simple commissioning

Stroke up to	mm	135
Max. Force	N	255
Nominal Force	N	35
Peak Velocity	m/s	3.2
Peak Acceleration	m/s ²	450
Repeatability	mm	±0.05
Stator Length	mm	400
Slider Length	mm	240



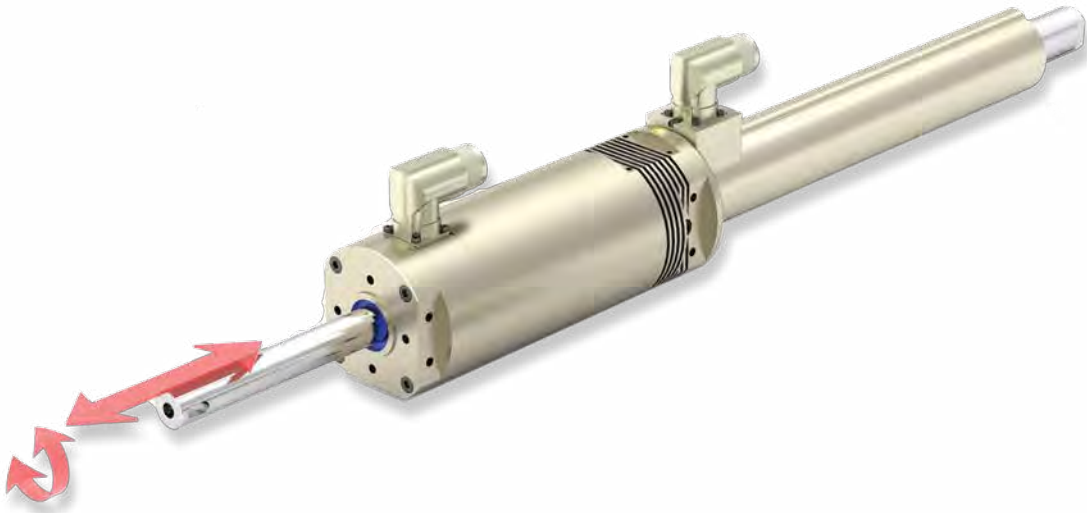
Special Motor
Integrated Drive IP69k

Omega Motor

- » Stainless Steel Motor with integrated drive
- » Especially for applications in the pharmaceutical and food industry with very tight spaces
- » Welded connections
- » Completely encapsulated (IP69K)
- » Special designed connector
- » Control via fieldbus or Industrial Ethernet



Linear Rotary Motors



The PR01 motor series combines linear and rotary movements in a single integrated direct drive solution. The two motors are individually and independently driven. Working with a higher-level control high dynamic linear and rotary movements can be realized. These can be programmed either synchronously or independently of each other.

Complex tasks such as screwing, closing, capping, stacking, aligning and much more can be realized with a single component. The PR01 linear-rotary motor allows for independently specified linear force/pressing force as well as rotary torque.

Standard
Gearbox
Hollow shaft
Stainless steel

✓ Linear and rotary direct drive

✓ Synchronous linear and rotary movements

✓ Programmable forces and torques

✓ Stainless steel version available

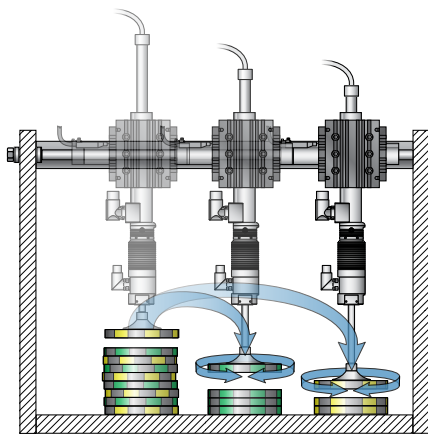
✓ With gear transmission or hollow shaft

✓ Simplest realization of seamers & cappers

Hollow shaft



- » Version with hollow shaft
- » Inner diameter 2.5 / 4.0 mm
- » Upgradeable to vacuum gripper
- » Can be combined with a pneumatic or electric gripper



Stroke up to	mm	150
Max. Force	N	229-921
Nominal Force	N	45-319
Peak Velocity	m/s	3.9
Peak Torque	m/s ²	1.53-8.9
Constant Torque	Nm	0.32-2.64
Max. Num. of Rev.	rpm	1000-1500
Repeatability	mm	0.05/0.01
Length	mm	503-959

Standard



Stroke up to	mm	300
Max. Force	N	255-1024
Nominal Force	N	51-354
Peak Velocity	m/s	3.9
Peak Torque	m/s ²	1.53-8.9
Constant Torque	Nm	0.32-2.64
Max. Num. of Rev.	rpm	1000-1500
Repeatability	mm	0.05/0.01
Length	mm	503-1222

- » Linear direct drive
- » Rotary direct drive
- » Independent linear and rotary motions
- » Integrated position sensors
- » Absolute temperature feedback
- » Programmable position / motion profiles
- » Programmable press force
- » Programmable torque



Stainless steel

- » Linear rotary shaft in stainless steel
EN 1.4404 / AISI 316
- » Hygienic Design
- » Resistant to cleaning supplies
- » Designed for use with food products
- » Designed for use in the chemical industry
- » With interchangeable plain bearings



Gearbox



- » Independent linear and rotary motions
- » For applications with high inertia loads
- » For applications with high torque requirement
- » 3 selectable transmission ratios
- » With guide rails to bear transverse loads

Max. Stroke	mm	150
Max. Force	N	1024
Nominal Force	N	354
Peak Velocity	m/s	3
Gear	n	1:5/1:7/1:10
Peak Torque	Nm	44/62/89
Constant Torque	Nm	9.5/13/19

